Mr. Aaron Johnson
Honeywell International
3520 Westmoor Street
South Bend, Indiana 46228

Re: Exempted Construction and Operation Status,
141-16729-00172

Dear Mr. Johnson:

The application from Honeywell International, received on November 1, 2002, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following soil and groundwater remediation systems, to be located at 3520 Westmoor Street, South Bend, Indiana, is classified as exempt from permitting requirements:

(a) Soil vapor extraction (SVE) and air sparging system, which includes seven (7) ART™ Integrated Remediation System wells. The soil vapor extraction system is capable of extracting air at a total rate of 345 standard cubic feet per minute (scfm). The VOC/HAP emissions from the soil and groundwater remediation is controlled by two (2) vapor phase carbon adsorption units.

The following conditions shall be applicable:

1. Volatile Organic Compounds
Any change or modification that may increase the potential VOC emissions to 25 tons per year or greater from these facilities shall be approved by the Office of Air Quality (OAQ) before such change may occur.

2. Hazardous Air Pollutants
Any change or modification that may increase the PTE from single HAP to 10 tons per year or greater; or combined HAPs to 25 tons per year or greater from these facilities shall be approved by the Office of Air Quality (OAQ) before such change may occur.

This existing source has submitted their Part 70 application T141-7442-00172 and is still pending for issuance. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

APD

cc: File - St. Joseph County
St. Joseph County Health Department
Air Compliance - Rick Reynolds
Northern Regional Office
Permit Tracking
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak
St Joseph Local Agency
Part 70 Application File - T-141-7442-00172

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	Honeywell International
Source Location:	3520 Westmoor Street, South Bend, Indiana 46628
County:	St. Joseph
SIC Code:	3728
Exemption No.:	141-16729-00172
Part 70 Permit No.:	141-7442-00172
Issuance Date:	Pending
Permit Reviewer:	Aida De Guzman

The Office of Air Quality (OAQ) has reviewed an application from Honeywell International relating to the construction and operation of the following soil and groundwater remediation systems:

(a) Soil vapor extraction (SVE) and air sparging system, which includes seven (7) ART™ Integrated Remediation System wells. The soil vapor extraction system is capable of extracting air at a total rate of 345 standard cubic feet per minute (scfm). The VOC/HAP emissions from the soil and groundwater remediation is controlled by two (2) vapor phase carbon adsorption units.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 1, 2002, with additional information received on November 14, 2002.

Emission Calculations

(a) Air Spurging and Soil Vapor Extraction System:
Soil vapor extraction system removes volatile organic compounds (VOCs) and some semi-volatile organic compounds (SVOCs) from soil beneath the ground surface in the unsaturated zone (part of the subsurface located above the water table). By applying a vacuum through a system of underground wells, contaminants are pulled to the surface as vapor or gas. Air sparging system which includes air injection wells are installed to remove contaminants in the saturated zone of the subsurface (water-soaked soil that lies below the water table).

Soil and Underground Water Remediation:
The emission calculation was based on the following pilot study which determined the Trichloroethylene (TCE) concentration versus time:

Elapsed Time (Days)	TCE Concentration (ppm)
0.29	650
7.13	138
7.17	242
11.00	183
13.92	117
14.00	290
14.10	292
21.00	76
41.00	110

The initial concentration of TCE was at 650 parts per million (ppm) at 0.29th day of the test and stabilized down to 292 ppm on the 14th day of the test. Since the emission from this type of operation diminishes in time, the concentration where it stabilized at 292 ppm will be used in the calculations. See Page 1 of 1 TSD Appendix A for detailed emission calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	0.0
PM-10	0.0
SO_2	0.0
VOC	9.023
CO	0.0
NO_x	0.0

HAP's	Potential To Emit (tons/year)
Trichloroethylene	9.023
TOTAL	9.023

Justification for the Level of Approval

(a) This proposed soil and underground water remediation is exempted, pursuant to 326 IAC 2-1.1-3, because the potential to emit (as defined in 326 IAC 2-7-1(29)) of volatile organic compounds (VOC) is less than 10 tons per year.

County Attainment Status

The source is located in St Joseph County.

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
Ozone	Maintenance
CO	Attainment
Lead	not determined

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. St. Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) St. Joseph County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD Definition (taken from Source Modification 141-10759-00172 based on after control):

Pollutant	Emissions from Existing Source Before the Last Significant Source Modification 141-10759 (tons/yr)	Emissions After Control From the Significant Source Modification 141-1075 (ton/yr)	TOTAL Emissions (tons/yr)
PM	0.8	0.0	0.8
PM10	0.8	0.0	0.8
SO_2	0.0	0.0	0.0
VOC	678.0	8.7	686.7
CO	0.0	98.2	98.2
NO_x	0.0	17.1	17.1
Single HAP	-	1.9	1.9
Combination HAPs	-	1.9	1.9

(a) This existing source is a major stationary source because at least one attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

POTENTIAL TO EMIT (tons/yr)							
Process/Facility	PM	PM10	SO2	VOC	CO	NOx	HAPs
Soil and Underground Water Remediation	0.0	0.0	0.0	0.902	0.0	0.0	0.902
PSD Significant Levels	25	15	40	40	100	40	-
Existing Source PTE	0.0	0.8	0.0	686.7	0.0	0.0	1.9
Source PTE After Modification	0.0	0.8	0.0	687.60	0.0	0.0	2.80

This exempted facility which is a modification to an existing major stationary source is not major for the Prevention of Significant Deterioration (PSD), because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)
This existing source is subject to the Part 70 Permit requirements because the potential to emit (PTE) of:
(a) each criteria pollutant is greater than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is greater than 10 tons per year, or
(c) any combination of HAPs is greater than 25 tons/year.

The Part 70 permit is still pending for approval.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability

(a) 326 IAC 8 (Volatile Organic Sources)
There are no provisions under Article 8 that will apply to this soil and underground water remediation source, because it does not fit to any of the source categories in the rule.

(b) 326 IAC 8-1-6 (General Reduction Requirements)
This rule applies to new facility as of January 1, 1980 which have potential VOC emission of 25 tons per year. The soil and underground water remediation source is **not** subject to this rule because its VOC potential emission is less than 25 tons per year.

(c) 326 IAC 2-4.1-1 (New Source Toxics Control)
This rule applies to sources who construct or reconstructs a major source of hazardous air pollutants after July 27, 1997. This rule is **not** applicable to this source, because it is not major for hazardous air pollutants (HAPs).

Conclusion

The construction and operation of this soil and underground water remediation source shall be subject to the conditions of the attached **Exemption 141-16729-00172.**

Company Name: Honeywell International
Address City IN Zip: 3520 Westmoor St., South Bend, Indiana 46628
Exemption No.: 141-16729
Plt ID No.: 141-00172
Reviewer: Aida De Guzman
Date Application Received: Nov. 1, 2002

HAP/VOC	Concentration "(ppm)	Molecular Wt. "(lb/lb-mole)	Air Flow Rate "(scfm)	Uncontrolled HAP/VOC Emissions (tons/year)	Controlled HAP/VOC Emissions (tons/year)
Air Spurging and Soil Vapor Extraction					
Trichloroethylene	292	131.3	345	9.023	0.902
TOTAL VOC/HAP Emissions				9.023	0.902

Carbon adsorber control efficiency = 90%

Methodology:

$$\text{Emissions, tons/yr} = \frac{\text{ppm} * \text{mol. wt., lb/lb-mole} * \text{air flow, acfm} * 60 \text{ min/hr} * 8760 \text{ hrs/yr} * \text{ton/2000 lb}}{c = 385{,}260{,}000 \text{ cf ft/lb-mole}}$$